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NOTES ON THE RED-WINGED BLACKBIRD.

BY IRA N. GABRIELSON.

Just back of Riverview Cemetery at Marshalltown, Iowa, there lies a low, flat pasture through which flows the Iowa River. An old channel of the river winds up behind the cemetery in a long loop and is filled much of the time with stagnant water. Along the banks of the small pond thus formed is a narrow growth of willows with a dense growth of smartweed and nettles between them and the water's edge. Back of the willows is a sparse stand of such trees as elm, soft maple, ash, and box elder.

To this locality my interest was strongly attracted during May by a little band of five pair of Red-winged Blackbirds, *Agelaius phoeniceus phoeniceus*, which seemed inclined to settle there for the summer. They remained through the first half of May and on the nineteenth I found two partially completed nests. May 30 the willows were searched and four nests were found. These contained four, three, one, and no eggs respectively. All were built in small willows from three to six feet from the ground. The last two had been disturbed by small boys as tracks were visible in the soft earth and the bent and broken branches of each tree testified to the attempt to climb it.

The Red-wings were well started on the nesting season

when the very heavy rains of early June flooded the region and destroyed all of the nests. The fifth nest was not discovered until June 27 when on a close examination, a bit of supposed drift material lodged in a small tree was found to be a nest of this species filled with mud, leaves, and sticks. In the bottom two rotten eggs were found. The river remained high for only a few days but the water continued to flow through the old channel until June 25. This converted



Female Brooding.

the region into an island and kept the small boys out. On June 25 I succeeded in crossing to this island and found that the Red-wings had used to good advantage the period of isolation. The old nests were filled with mud and leaves but there were also four new ones containing young just hatched. All of these nests were placed on slightly higher ground than the preceding ones. All were very flimsy and resembled the nest of the Grosbeak more than the usual Red-wing type. One was placed in a willow about six feet from

the ground and contained two nestlings and two eggs. This pair after many trials succeeded in raising all four of their brood. The nest was close to a wagon track leading to a sand pump on the river and the passing of the wagons kept them in a constant state of alarm. The second was placed in a small elm and the four nestlings it contained were successfully reared. The third, in a willow, held one naked young which disappeared the next day. The fourth, contain-



Approaching with Food.

ing three nestlings, was chosen for special study. All three nestlings failed to reach the fledgling stage. The fifth pair placed their nest in a dense tangle of willows and vines, thickly grown with nettles (*Urtica sp?*). The growth was so dense that, although I worked my way through the thicket several times, I did not find the nest. These five pairs of Red-wings thus built ten nests and from the nine which were found only eight young were finally brought to a fledgling state. This seems to be an unusually low percentage of increase, at least in my experience.

On the same date (June 25) I found a Rose-breasted Grosbeak's nest and while watching it our attention was drawn to Red-wing nest number four and we erected a blind with the idea of securing some photographs of the parents. While engaged in this we became so interested in the blackbirds that we spent some time watching them. My wife and I did all of the work.

The nest was built in a small elm about two feet from the



Female Alarmed by a Whistle from the Blind.

ground. It was carelessly and coarsely woven and was so thin one could see thru the sides. It was left undisturbed except that enough branches and leaves were removed to allow photographs to be taken. An ordinary umbrella blind was erected at the nest on the afternoon of June 29. The bird was unusually shy and it was not until noon of the thirtieth that we thought it wise to enter the blind. We could watch her actions from the Grosbeak's nest and thus determine the

time at which she became reconciled to the blind. The nestlings were painted with water colors we had been using on lantern slides. Ordinary water colors had been previously tried without much success but the results obtained with these were fairly satisfactory. One of the nestlings had his beak colored a bright red, the second, green, and the third was left a normal color. The startling contrasts in the beaks made it easy to determine which nestling received the food. We spent the afternoon of the thirtieth and all day July 1 watching this nest. We returned on the morning of the second to find a sad state of affairs. One nestling had entirely disappeared, a second was in the nest in a dying condition, and a single torn bloody wing on the ground beneath the nest testified to the fate of the third. The ground about the nest had been trampled hard by our movements in erecting the blind and, although we searched carefully, we could find no evidence betraying the identity of the marauder.

BROODING.

Although this bird apparently never recovered from the fear of the blind the brooding instinct was very strongly developed. On every approach to the nest she uttered continually a single syllabled note of alarm. This note had a harsh metallic ring and has been represented by the word "tchéck." It was accompanied by a jerking of the tail and quick motions of the head from side to side. On leaving the nest she invariably gave a call of several syllables. This call was very peculiar and difficult of description. In spite of her manifest uneasiness at the presence of the blind she spent most of the time, while the sun shone on the nest, in brooding. The position of the blind and the surrounding vegetation exposed the nest to the sun from 8:30 to 10:10 while it was shaded during the remainder of the day. On July 1, the day on which we watched during this period, she spent fifty minutes or exactly one half the time in shading the young while not a minute was so spent at any other time of the day. In shading the young she always assumed the same position with

her head toward the sun and broadside to the blind. One foot was placed on each side of the nest, the beak held wide open, the wings half spread and slightly drooping, and the feathers of the head and back elevated. This resulted in entirely shading the young and is the most perfect development of this brooding position yet noted in an individual bird. All passerine birds which I have watched make some attempt to assume a similar position but only a single one, a female Brown Thrasher, ever approached this Red-wing in the attempt. While on the nest she uttered incessantly the single syllabled alarm note and on leaving always added the other call.

FOOD.

TABLE I. FOOD OF NESTLINGS.

FOOD	NESTLING				TOTAL
	A	B	C	UNKNOWN	
Unidentified	16	7	12	..	35
Moth	7	8	2	2	19
Maybeetle	..	1	..	..	1
Beetle	5	1	..	..	6
Grasshopper	23	26	23	..	72
Spider	3	2	6	..	11
Mayfly	..	..	1	..	1
Measuring worm	2	4	1	..	7
Larvae	7	7	5	..	19
Frog	..	..	1	..	1
Daddy longlegs	1	..	2	..	3
Wire worm, etc	3	6	7	..	16
Cricket	1	..	3	..	4
Fly	..	2	..	..	2
Total	71	66	64	2	203

All feedings were by the female, the male never approaching the nest. The area from which this bird secured food was exceedingly limited. As stated before, the nest was in a small elm just in the edge of the timber which at this point

was from 15 to 20 feet from the edge of the water. Beginning at the water's edge and going towards the nest we found several more or less well defined areas of growth: first, in the edge of the water was a dense growth of arrow-head lilies (*Sagittaria sp?*) in a strip of six or eight feet in width; second, from three to five feet inland was a region of bare earth or a short growth of a sedge of an unknown species; third, a band of smartweed (*Polygonum sp?*); and lastly, a mixed



The Attitude of Inspection.

growth in which nettles (*Urtica sp?*) and burdock (*Arctium sp?*) predominated. This growth touched the nest on one side and on the other was the willow belt. The Red-wing confined her hunting as far as we could determine to the weed growth and particularly to the smartweed and burdock. We never saw her enter the willow thicket to hunt but always found her along the water's edge or in the weeds. The ground was damp and sticky and the region furnished good foraging. Grasshoppers were by far the most abundant forms and the Red-wing took advantage of the fact. Many

of them were of large size and she frequently brought them so large the nestlings could not swallow them. When this happened she crushed them in her beak until they could be devoured. Next to grasshoppers, moths were the most abundant. The majority of those brought were small, dull colored ones but occasionally a large grey or dull white one was seen. Spiders were also common and the most of those



Searching for Excrement.

fed were caught along the shore in the bits of drift wood. Altogether during the 170 feeding visits she brought 203 morsels of food. Of these, grasshoppers were 34.97%, moths 9.37%, larvae 9.35%, unidentified 17.24%, and the remaining 29.09% was composed of various insects. The unidentified were mostly small insects captured among the arrowhead lilies but we could not identify them. A very small frog was

fed on one visit. As far as numbers were concerned the distribution of food to the nestlings was very equal, A receiving 34.97% of the insects fed, B, 32.51%, and C, 31.51%. It is not so easy to estimate the percentage by bulk on account of the varying sizes of the insects fed.

BEHAVIOR OF THE FEMALE.

When at the nest she was at all times alert and any slight sound caused her to raise her head and utter the alarm note. If the noise were continued she hopped nervously away from the nest but returned as soon as it ceased. Fig. 3 was taken just as she raised her head and gave the alarm note in response to a low whistle from the blind. If not disturbed she usually critically inspected the nest after feeding. This position is shown in Fig. 4. In the majority of visits she left after this inspection but whenever she saw anything in the nest which needed attention she dived head foremost among the nestlings (Fig. 5) and probed vigorously. Occasionally this probing was so violent as to shake the whole tree and shove the young out of the nest. Once during this process one of the nestlings was lifted up, thrown over the edge of the nest, and would have fallen to the ground had she not seized him by the leg and pulled him back.

In no instance during the study was the excreta devoured but it was always carried away.

She had a stereotyped method of approaching and leaving the nest. To reach it she flew to a small willow on the opposite side of the nest tree and then hopped to the nest. In leaving she invariably flew straight toward the blind and swung to the left as soon as she was out of the tree.

BEHAVIOR OF THE MALE.

The male was never seen at the nest, but spent his time in the top of a tall willow just behind the blind. While here he often dashed out and snapped up a passing insect in approved flycatcher manner. He spent much time with his wings slightly spread to show the crimson shoulder and singing his "con-qua-ree." The only time he exhibited any interest in

his family was when we approached the blind or at the presence of some other bird. When we came near the blind, he swung out over our heads uttering the whistling note which Nehrling renders "Tii-tii." He ceased this as soon as we disappeared in the blind and resumed his song.

In his relations with his bird neighbors he was far from being friendly. His nearest neighbor was a Rose-breasted Grosbeak which had a nest not twenty-five feet from that of the Red-wing. When not engaged in fighting away other birds, the two males spent much time in fighting each other with the Grosbeak generally victorious. On one occasion a Bronzed Grackle alighted in a willow between the two nests and both males flew at him driving him out of the vicinity. A Catbird and Brown Thrasher had both raised families a short distance away and the young were just out of the nest. Hardly a minute of the day passed but what one could hear the squalling of one of these and the cries of the Red-wing as he drove them away. On the morning when we returned to find the nest destroyed, he was still on guard as bravely and as conspicuously as ever and seemingly undisturbed by the tragedy in his family.

NOTES FROM THE LAURENTIAN HILLS.

YELLOW-BELLIED FLYCATCHER, GOLDEN-CROWNED KINGLET, AND BLACKBURNIAN WARBLER.

BY L. MCI. TERRILL.

Exploring in the Laurentians has all the fascination of fishing for me; one never knows what to expect at the turn of the road, and the road turns often. Though fire has raged in many sections, the rocky and broken nature of the country prevents a continuous burning.

Most uninviting vistas change abruptly; one climbs a burnt hillside — gray boulders and charred stumps peeping through a dense undergrowth of Bracken and Raspberry vines — sur-